STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
STATE PLANNING COORDINATION

January 24, 2006

Amanda Jones
Morris & Ritchie Associates
18 Boulden Circle, Ste. 36
New Castle, De 19720

RE: PLUS review – PLUS 2005-12-13; Jarrell Property

Dear Ms. Jones:

Thank you for meeting with State agency planners on January 4, 2006 to discuss the proposed plans for the Jarrell property project to be located south of Evans Road, west of Turkey Point Road, north of Firetower Road and southwest of the Town of Viola.

According to the information received, you are seeking site plan approval for 328 residential units on 132.20 acres.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Kent County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.

Executive Summary

The following section includes some site specific highlights from the agency comments found in this letter. This summary is provided for your convenience and reference. The full text of this letter represents the official state response to this project. ***Our office***

notes that the applicants are responsible for reading and responding to this letter and all comments contained within it in their entirety.

State Strategies/Project Location

- This project is located in Investment Levels 2 and 3 according to the *Strategies for State Policies and Spending.* This site is also located in the Kent County Growth Zone. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments will support growth in these areas. Our office has no objections to the proposed development of this project in accordance with the relevant County codes and ordinances.

Street Design and Transportation

- The proposed development would exceed DelDOT's traffic volume warrants for a traffic impact study (TIS), so they will require a TIS for this development.

- Firetower Road and Evens Road are classified as local roads. Local roads in Delaware typically have right-of-way widths ranging from 33 to 50 feet. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads. Therefore, they will require right-of-way dedication along the frontage of both roads to provide any additional width needed from this project.

- DelDOT will also require that a paved multi-modal path, located in a 15-foot wide permanent easement, be provided across the frontage of the site.

- An easement should be provided so that the outparcel immediately east of the proposed townhouses (Tax Parcel NM-00-119.00-02-48.01) can be connected to the townhouse development if it is ever redeveloped.

Natural and Cultural Resources

- The project has the potential to impact cultural resources and therefore, the Division of Historical and Cultural Affairs recommends the property owner/developer consider undertaking a cultural resource study of the project area before proceeding

- Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested riparian and palustrine unconsolidated bottom wetlands on this parcel. These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. A 100-foot vegetated buffer should be implemented from the edge of the wetland complex.

- Because there is strong evidence that federally regulated wetlands exist on site, a wetland field delineation, in accordance with the methodology established by the Corps of Engineers Wetlands Delineation Manual, (Technical Report Y-87-1) should be conducted.

- This project is located directly adjacent to headwater wetlands associated with Hudson Branch of the greater Murderkill River. In recognition of the impacts to water and habitat quality and the necessity to protect it for long-term sustainable use, the Watershed Assessment Section strongly urges the applicant to consider the preserving the existing naturally-forested buffer in its entirety and increasing the buffer width (where applicable) to a minimum 100-foot width.

- DNREC suggests that the applicant verify their project's compliance (using corrected impervious cover figure) with the specified TMDL loading rates by obtaining the nutrient budget protocol and running the model themselves. Please contact Lyle Jones of Watershed Section at 739-9939 for the acceptable model protocol.

- The DNREC drainage section recommended the following design changes

    1. Eliminate lots 7-14 and 88-93. They are within the 100-foot setback from a blue line stream.

    2. Relocate townhouses that are placed in a natural draw instead of on high ground.

- According to the site plan 2.07 acres out of 25.83 acres of trees are going to be removed, mostly for a stormwater management pond. These trees are part of the riparian buffer and are extremely important for maintaining water quality and filtering out pollutants that could detrimentally affect the stream and aquatic organisms. Considering the benefit of trees in flood abatement and erosion control it does not make sense to remove them for a stormwater management pond. The pond should either be reduced in size, relocated to a non-forested portion of the project area, or an alternative method of stormwater management implemented. If trees are removed despite this recommendation, they should not be cleared April

1st to July 31st to reduce impacts to nesting birds and other wildlife species that utilize forests for breeding.

The following are a complete list of comments received by State agencies:

Office of State Planning Coordination – Contact: David Edgell 739-3090

This project is located in Investment Levels 2 and 3 according to the *Strategies for State Policies and Spending.* This site is also located in the Kent County Growth Zone. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments will support growth in these areas. Our office has no objections to the proposed development of this project in accordance with the relevant County codes and ordinances.

Division of Historic and Cultural Affairs – Contact: Alice Guerrant 739-5685

The project has the potential to impact cultural resources and therefore, the Division of Historical and Cultural Affairs recommends the property owner/developer consider undertaking a cultural resource study of the project area before proceeding. Both marked and unmarked burials are protected by Delaware law. Please refer to the following sections of the Delaware State Code: (1) Title 11 Sub-Chapter 1340, titled "Desecration of Burial Places"; and (2) Title 7 Chapter 54, known as the "Delaware Unmarked Human Remains Act". For more information about these laws and the implications for the project, contact Craig Lukesic or Faye Stocum of this office at 302-736-7400. The Division provides a list of qualified consultants on their web site at http://www.state.de.us/shpo/PDF/Consultants.pdf.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

1) The proposed development would exceed DelDOT's traffic volume warrants for a traffic impact study (TIS), so they will require a TIS for this development. Because these studies typically take 6 to 12 months from their initial scoping meeting to the completion of DelDOT's review, it is recommended that the developer have their traffic engineer contact Mr. Todd Sammons of the DelDOT Development Coordination Section as soon as possible to obtain a scope for this study. Mr. Sammons may be reached at (302) 760-2134.

2) Firetower Road and Evens Road are classified as local roads. Local roads in Delaware typically have right-of-way widths ranging from 33 to 50 feet.

DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads. Therefore, they will require right-of-way dedication along the frontage of both roads to provide any additional width needed from this project.

3) The developer will be required to improve Firetower Road and Evens Road to meet DelDOT's standard typical section for local roads (two 11-foot lanes and two 5-foot shoulders) for the length of the site frontage.

4) DelDOT will also require that a paved multi-modal path, located in a 15-foot wide permanent easement, be provided across the frontage of the site.

5) An easement should be provided so that the outparcel immediately east of the proposed townhouses (Tax Parcel NM-00-119.00-02-48.01) can be connected to the townhouse development if it is ever redeveloped.

6) DelDOT commends the developer for providing the proposed stub streets and aligning the entrances as proposed. An additional stub street should be provided to the manufactured housing community (Tax Parcel NM-00-119.19-01-42.00) associated with Riverdale Estates so that if that property is ever redeveloped it can include a connection from Gelden Road to the proposed townhouse development.

7) The developer's site engineer should contact Mr. Brad Herb, the DelDOT project manager for Kent County, regarding specific requirements for streets and access. He may be reached at (302) 266-9600.

The Department of Natural Resources and Environmental Control – Contact: Kevin Coyle 739-9071

Soils

Based on the Kent County soil survey, Sassafras, Woodstown, Fallsington, and Johnston were mapped in the immediate vicinity of the proposed project. Sassafras is a well-drained upland soil that, generally, has few limitations for development. Woodstown is a moderately well-drained soil of low-lying upland that has moderate limitations for development. Fallsington is a poorly-drained wetland associated (hydric) soil that has severe limitations for development. Johnston is a very poorly-drained wetland associated (hydric) floodplain soil that has the highest severity level for development.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested riparian and palustrine unconsolidated bottom wetlands on this parcel.

These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. A 100-foot vegetated buffer should be implemented from the edge of the wetland complex. The developer should note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

Because there is strong evidence that federally regulated wetlands exist on site, a wetland field delineation, in accordance with the methodology established by the Corps of Engineers Wetlands Delineation Manual, (Technical Report Y-87-1) should be conducted. Once complete, this delineation should be verified Corps of Engineers through the Jurisdictional Determination process. This delineation should be verified by the Army Corps of Engineers through the Jurisdictional Determination process. Please note that impacts to palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached by phone at 736-9763.

In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by Federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

This project is located directly adjacent to headwater wetlands associated with Hudson Branch of the greater Murderkill River - greatly increasing the probability of harmful impacts to surface and groundwater quality to all waters within the Murderkill River watershed - making it more difficult for the State to achieve future required TMDL nutrient reductions. It should also be noted that harmful impacts to water quality result in the deterioration in the ecological function of a stream along its entire length, including

the floodplain system further downstream. In recognition of the impacts to water and habitat quality and the necessity to protect it for long-term sustainable use, the Watershed Assessment Section strongly urges the applicant to consider the preserving the existing naturally-forested buffer in its entirety and increasing the buffer width (where applicable) to a minimum 100-foot width.

Impervious Cover

Based on a review of the submitted PLUS application, the applicant projects that only 26 percent of this parcel will be rendered impervious following this parcel's development. This figure, however, appears to understate the actual amount of created post-development surface imperviousness. It is strongly suggested that all forms of created surface imperviousness (i.e., rooftops, sidewalks and roads) be considered when calculating surface imperviousness. Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline. Based on analyses of 2002 aerial photography by the University of Delaware, the Murderkill watershed, at that time, had about 8.1 percent impervious cover. Although this data is almost 4 years old and likely an underestimate, it illustrates the importance of a proactive strategy to mitigate for predictable and likely cumulative environmental impacts. Since the amount of imperviousness generated by this project will be significantly higher than the desirable watershed threshold of 10 percent, the applicant is strongly advised to pursue best management practices (BMPs) that mitigate or reduce some of the most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover via preservation or additional tree plantings are examples of practical BMPs that could easily be implemented to reduce surface imperviousness.

TMDLs

With the adoption of Total Maximum Daily Loads (TMDLs) as a "nutrient-runoff-mitigation strategy" for reducing nutrients in the Murderkill River watershed, reduction of nitrogen and phosphorus loading will be mandatory. A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited water body" can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Nutrient reductions prescribed under TMDLs are assigned to those watersheds or basins on the basis of recognized water quality impairments.

In the Murderkill watershed, the primary source of water quality impairment is associated with nutrient runoff from agricultural and/or residential development. In order to

mitigate for the aforementioned impairments, a post-development TMDL reduction level of 50 and 30 percent will be required for nitrogen and phosphorus, respectively. Compliance with the post-development TMDL nutrient loading reduction requirements will be assessed via nutrient budget protocol, a computer-based model that quantifies post-development nutrient loading under a variety of land use scenarios in combination with a variety (or absence) of BMP types and intensities. This post-development loading rate is then compared with the pre-development loading rate as a means to assess whether the project meets the acceptable TMDL reduction levels. Since impervious cover is an important variable for assessing the environmental impacts from nutrient runoff, the applicant, as mentioned previously, should recalculate the projected surface imperviousness using more comprehensive approach. All forms of created surface imperviousness (rooftops, sidewalks, and roads) should be considered when calculating surface imperviousness; otherwise the nutrient budget protocol will not reflect the project's true environmental impacts. DNREC suggests that the applicant verify their project's compliance (using corrected impervious cover figure) with the specified TMDL loading rates by obtaining the nutrient budget protocol and running the model themselves. Please contact Lyle Jones of Watershed Section at 739-9939 for the acceptable model protocol.

Water Resource Protection Areas

A portion of the site falls within an excellent recharge area (see attached map).

According to the State law that created the Source Water Protection Program, county and municipal governments with more than 2,000 residents will be required to enact ordinances to protect Water Resource Protection Areas. Municipalities with fewer than 2,000 residents are encouraged to enact such ordinances. The following language has been excerpted from the Source Water Protection Guidance Manual for Local Governments, Supplement 1 - Ground-Water Recharge Design Methodology. While the local ordinances may not yet be in place, the developer may find the language useful in modifying the site plan to protect water resources.

Water Resource Protection Areas (WRPAs) are defined as (1) surface water areas such as floodplains, limestone aquifers, and reservoir watersheds, (2) wellhead areas, or (3) excellent recharge areas. The purpose of an impervious cover threshold is to minimize loss of recharge and protect the quality and quantity of ground and surface water supplies in WRPAs.

New development in WRPAs may exceed the 20% impervious cover threshold, but be no more than 50% impervious, provided the applicant submits an environmental assessment report recommending a climatic water budget and facilities to augment recharge. The

environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis.

Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water.

The Department recommends the following (ranked in order of preference):

1) Preserve WRPAs as open space and parks by acquisition or conservation easement.
2) Limit impervious cover of new development to 20% by right within WRPAs.
3) Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that directly infiltrate rooftop runoff.
4) Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that infiltrate stormwater runoff from forested and/or grassed surfaces with pretreatment.

For more information, refer to:

Source Water Protection Guidance Manual for the Local Governments of Delaware at http://www.wr.udel.edu/swaphome/phase2/SWPguidancemanual.html

and

Ground-Water Recharge Design Methodology at http://www.wr.udel.edu/swaphome/phase2/Publications/swapp_manual_final/swapp_guidance_manual_supp_1_2005_05_02.pdf

Water Supply

The project information sheets state that water will be provided to the project by a public water system. Our records indicate that the project site is not located in an area where public water service is available. Any public water utility providing water to the site must obtain a certificate of public convenience and necessity (CPCN) from the Public Service Commission. Information on CPCNs and the application process can be obtained by contacting the Public Service Commission at 302-739-4247. Should an on-site public well be needed, it must be located at least 150 ft. from the outermost boundaries of the project. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all

requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

Sediment and Erosion Control/Stormwater Management

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. The plan review and approval as well as construction inspection will be coordinated through Kent Conservation District. Contact Jared Adkins, Program Manager, at (302) 741-2600, ext. 3, for details regarding submittal requirements and fees.

A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity must be submitted to DNREC Division of Soil and Water Conservation along with the $195 NOI fee prior to plan approval.

Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces, should be considered in the overall design of the project as a stormwater management technique. Green Technology BMPs must be given first consideration for stormwater quality management. Each stormwater management facility should have an adequate outlet for release of stormwater.

It is strongly recommended that you contact the reviewing agency to schedule a preliminary meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-

development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion.

Drainage

Design recommendations:

- Eliminate lots 7-14 and 88-93. They are within the 100-foot setback from a blue line stream.
- Relocate townhouses that are placed in a natural draw instead of on high ground.

The Drainage Program requests the engineer take precautions to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water. The Drainage Program requests the engineer check downstream for function and blockages prior to construction. Please notify downstream landowners if there will be a change in the volume of water released on them.

The Drainage Program encourages the elevation of rear yards to direct water towards the streets where storm drains are accessible for maintenance. The Drainage Program recognizes the need for catch basins in rear yards in certain cases. Catch basins placed in rear yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, and kennels should not be placed along the storm drain or near the catch basin. Deed restrictions or easements recorded on the deed, should be placed on the property to ensure maintenance access.

This project is within the Murderkill River Watershed, a designated critical area, with a promulgated Total Maximum Daily Load (TMDL). Preserve existing riparian buffers to aid in the reduction of nutrients, sediment, and other pollutants. For the further enhancement of water quality in the Murderkill watershed, the Drainage Program encourages additional widths of vegetated buffers and other water quality measures on this project. Please explore the use of a created wetland to filter excess nutrients in stormwater runoff from this site before releasing stormwater into Hudson Branch.

Floodplains

Kent County does not permit the subdivision of land in the 100-year floodplain. As long as no development is proposed in the floodplain, then no additional flood studies or design restrictions would apply.

Forest Preservation

According to the site plan 2.07 acres out of 25.83 acres of trees are going to be removed, mostly for a stormwater management pond. These trees are part of the riparian buffer and are extremely important for maintaining water quality and filtering out pollutants that could detrimentally affect the stream and aquatic organisms. Considering the benefit of trees in flood abatement and erosion control it does not make sense to remove them for a stormwater management pond. The pond should either be reduced in size, relocated to a non-forested portion of the project area, or an alternative method of stormwater management implemented. If trees are removed despite this recommendation, they should not be cleared April 1st to July 31st to reduce impacts to nesting birds and other wildlife species that utilize forests for breeding.

Nuisance Waterfowl

Stormwater management ponds that remain in the site plan may attract waterfowl like resident Canada geese and mute swans. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns around ponds provide an attractive habitat for these species. We recommend native plantings of tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (50 feet) around the perimeter. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Solid Waste

Each Delaware household generates approximately 3,600 pounds of solid waste per year. On average, each new house constructed generates an additional 10,000 pounds of construction waste. Due to Delaware's present rate of growth and the impact that growth will have on the state's existing landfill capacity, the applicant is requested to be aware of the impact this project will have on the State’s limited landfill resources and, to the extent possible, take steps to minimize the amount of construction waste associated with this development.

Underground Storage Tanks

There is one inactive LUST site(s) located near the proposed project:

Martin Limestone, Facility # 1-000415, Project # K0410117

No environmental impact is expected from the above inactive/active LUST site(s). However, should any underground storage tank or petroleum contaminated soil be discovered during construction, the Tank Management Branch must be notified as soon as possible. It is not anticipated that any construction specifications would be need to be changed due to petroleum contamination. However, should any unanticipated contamination be encountered and PVC pipe is being utilized, it will need to be changed to ductile steel with nitrile rubber gaskets in the contaminated areas.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 25.2 tons (50,344.6 pounds) per year of VOC (volatile organic compounds), 20.8 tons (41,681.9 pounds) per year of NOx (nitrogen oxides), 15.4 tons (30,753.7 pounds) per year of SO2 (sulfur dioxide), 1.4 ton (2,737.6 pounds) per year of fine particulates and 2,105.6 tons (4,211,259.7 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 10.2 tons (20,306.3 pounds) per year of VOC (volatile organic compounds), 1.1 ton (2,234.3 pounds) per year of NOx (nitrogen oxides), 0.9 ton (1,854.2 pounds) per year of SO2 (sulfur dioxide), 1.2 ton (2,392.7 pounds) per year of fine particulates and 41.2 tons (82,317.0 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 4.0 tons (8,047.9 pounds) per year of NOx (nitrogen oxides), 14.0 tons (27,992.8 pounds) per year of SO2 (sulfur dioxide) and 2,064.5 tons (4,128,942.7 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO_2	$PM_{2.5}$	CO_2
Mobile	25.2	20.8	15.4	1.4	2105.6
Residential	10.2	1.1	0.9	1.2	41.2
Electrical Power		4.0	14.0		2064.5
TOTAL	35.4	25.9	30.3	2.6	4211.3

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 4.0 tons of nitrogen oxides per year and 14.0 tons of sulfur dioxide per year.

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, http://www.energystar.gov/:

"ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

building envelope upgrades,
high performance windows,
controlled air infiltration,
upgraded heating and air conditioning systems,
tight duct systems and
upgraded water-heating equipment."

The DNREC energy office in is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. They highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

They also recommend that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.

State Fire Marshal's Office – Contact: John Rossiter 739-4394

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements**:

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Townhouses)
- Where a water distribution system is proposed for single family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required. (One & Two- Family Dwelling)
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. **Fire Protection Features:**
- For townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan.

c. **Accessibility**
- All premises which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from West Evens Road and Fire Tower Road must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

d. **Gas Piping and System Information:**
- Provide type of fuel proposed, and show locations of bulk containers on plan.

e. **Required Notes**:
- Provide a note on the final plans submitted for review to read " All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations"
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Townhouse 2-hr separation wall details shall be shown on site plans
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Milton Melendez 698-4500

The Delaware Department of Agriculture has no objections to the Jarrell Property application. The site is located on a controlled development area. The *Strategies for State Policies and Spending* encourages environmentally responsible development in areas within a Growth Level 2 Zone. This site is a part of a "good recharge" area. DNREC has mapped all ground water potential recharge areas. A "good recharge" rating is the highest rating and designates an area as having important groundwater recharge qualities. Maintaining pervious cover in "Excellent" and "Good" recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as "excellent" and "good" recharge areas adversely impacts the future prospects for agriculture in Delaware.

Right Tree for the Right Place

The Delaware Department of Agriculture Forest Service encourages the developer to use the "Right Tree for the Right Place" for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource.

Native Landscapes

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

Tree Mitigation

The Delaware Forest Service encourages the developer to implement a tree mitigation program to replace trees at a 1:1 ratio within the site and throughout the community. This will help to meet the community's forestry goals and objectives and reduce the environmental impacts to the surrounding natural resources. To learn more, please contact our offices at (302) 349-5754.

Public Service Commission - Contact: Andrea Maucher 739-4247

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Project is not within a certificated service territory for any water provider. Should water services be desired, the utility would need to apply to the Commission for a CPCN.

Project is not within a certificated service territory for any wastewater provider. Should wastewater services be desired and are unavailable from a governmental entity, the utility may need to apply to the Commission for a CPCN.

Delaware State Housing Authority – Contact Jimmy Atkins 739-4263

This proposal is to develop 328 units on 132 acres located south of Evans Road, west of Turkey Point Road, north of Firetower Road, and adjacent to the southwest corner of the Town of Viola. According to the State Strategies Map, the proposal is located in an Investment Level 2 area. DSHA supports this proposal because residents will have proximity to existing services, markets, and employment opportunities. Furthermore, the proposal targets units for first time homebuyers. For informational purposes, the most recent real estate data collected by DSHA, the median home price in the Central Kent

County area is $225,750. However, families earning 80% of Kent County's median income only qualify for mortgages of $147,099. We recommend that some of the units be set-aside at this price level to ensure that working households have access to affordable housing.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

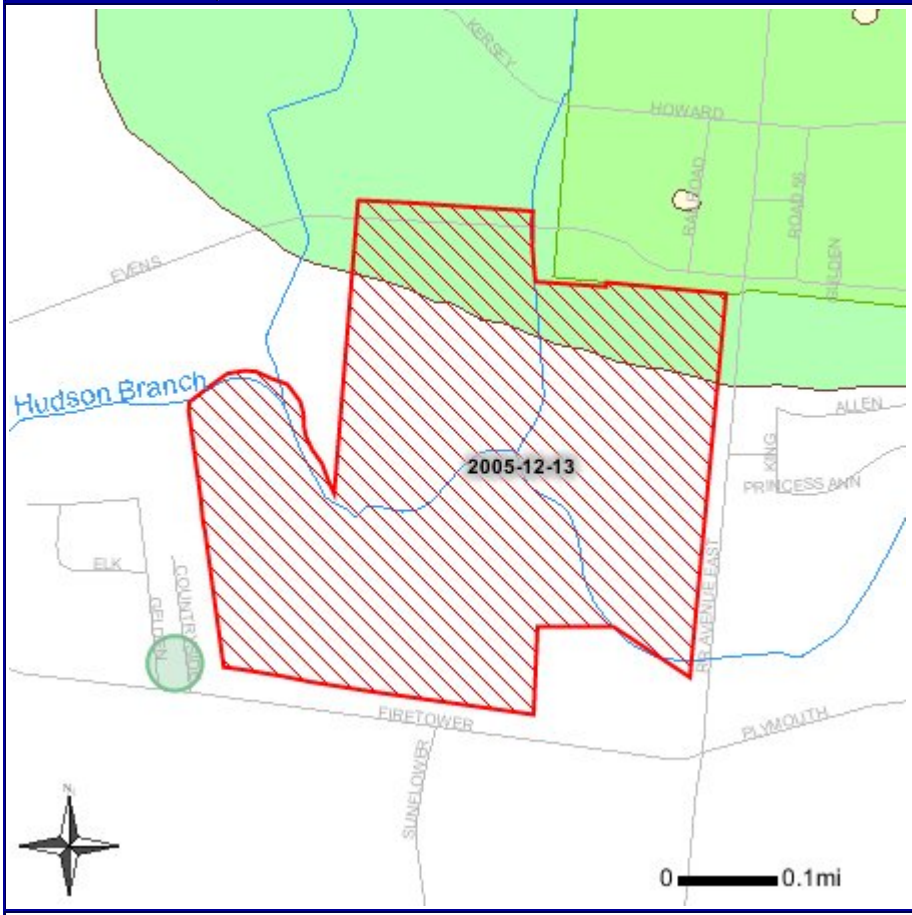
Sincerely,

Constance C. Holland, AICP
Director

CC: Kent County

Jarrell Property

2005-12-13



PLUS Projects
NHDFlowLine
Kent WHPA
All Roads
Excellent Recharge Areas
Towns

This map was produced by the Delaware
Department of Natural Resources and Environmental Control.